

10/532050

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PCT/US2003/028654

WO 2004/029199

SEQUENCE LISTING

<110> SmithKline Beecham Corporation

<120> A Set of Ubiquitous Cellular Proteins
Involved in Viral Life Cycle

<130> P51375

<140> Unassigned

<141> Herewith

<150> 60/410,460

<151> 2002-09-13

<160> 8

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 1270

<212> PRT

<213> Homo sapien

<400> 1

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 Lys Ile Gln Gly Glu Tyr Lys Tyr Thr Gln Val Gly Pro Asp His Asn
 195 200 205
 Arg Ser Phe Ile Ala Glu Met Thr Ile Tyr Ile Lys Gln Leu Gly Arg
 210 215 220
 Arg Ile Phe Ala Arg Glu His Gly Ser Asn Lys Lys Leu Ala Ala Gln
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 Ser Cys Ala Leu Ser Leu Val Arg Gln Leu Tyr His Leu Gly Val Val
 245 250 255
 Glu Ala Tyr Ser Gly Leu Thr Lys Lys Glu Gly Glu Thr Val Glu
 260 265 270
 Pro Tyr Lys Val Asn Leu Ser Gln Asp Leu Glu His Gln Leu Gln Asn
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 Ile Ile Gln Glu Leu Asn Leu Glu Ile Leu Pro Pro Pro Glu Asp Pro
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 Lys Thr Thr Gln Val Pro Gln Phe Ile Leu Asp Asp Phe Ile Gln Asn
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 Asp Arg Ala Ala Glu Cys Asn Ile Val Val Thr Gln Pro Arg Arg Ile
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 Pro Gly Lys Ser Cys Gly Tyr Ser Val Arg Phe Glu Ser Ile Leu Pro

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Leu Lys Tyr Ile Glu Thr Leu Asn Val Pro Gly Ala Val Leu Val Phe			
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Lys Leu Phe Thr Ala His Asn Asn Met Thr Asn Tyr Ser Thr Val Trp			
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Leu Glu Thr His Met Thr Pro Glu Met Phe Arg Thr Pro Leu His Glu			
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Ile Ala Leu Ser Ile Lys Leu Leu Arg Leu Gly Gly Ile Gly Gln Phe			
805	810	815	

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 Glu His Thr Leu Arg Glu Leu Asp Ala Leu Asp Ala Asn Asp Glu Leu
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 Thr Pro Leu Gly Arg Ile Leu Ala Lys Leu Pro Ile Glu Pro Arg Phe
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 865 870 875 880
 Cys Thr Ile Ala Ala Ala Thr Cys Phe Pro Glu Pro Phe Ile Asn Glu
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 915 920 925
 Arg Met Gly Gly Glu Glu Ala Glu Ile Arg Phe Cys Glu His Lys Arg
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 Leu Asn Met Ala Thr Leu Arg Met Thr Trp Glu Ala Lys Val Gln Leu
 945 950 955 960
 Lys Glu Ile Leu Ile Asn Ser Gly Phe Pro Glu Asp Cys Leu Leu Thr
 965 970 975
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 980 985 990
 Ser Leu Leu Ala Phe Gly Val Tyr Pro Asn Val Cys Tyr His Lys Glu
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 Pro Phe Phe Val Phe Gly Glu Lys Ile Arg Thr Arg Ala Ile Ser Ala
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 Lys Lys Val Gln Ser Asp Gly Gln Ile Val Leu Val Asp Asp Trp Ile
 1075 1080 1085
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 Ala Ala Met Glu Ala Leu Val Val Glu Val Thr Lys Gln Pro Ala Ile
 1105 1110 1115 1120
 Ile Ser Gln Leu Asp Pro Val Asn Glu Arg Met Leu Asn Met Ile Arg
 1125 1130 1135
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 1140 1145 1150
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Tyr	Gly	Gly	Gly	Tyr	Ser	Ser	Gly	Gly	Tyr	Gly	Ser	Gly	Gly	Tyr	Gly
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Asp	Tyr	Arg	Gly	Pro	Ser	Gly	Gly	Tyr	Arg	Gly	Ser	Gly	Gly	Phe	Gln
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<212> DNA
<213> Homo sapien

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gaaggttata attacaactgg catggaaat tccaccaata aaaaagatgc acaaagcaat 180
gctgccagag actttgttaa ctatttgtt cgaataaaatg aaataaaagag tgaagaagtt 240
ccagcttttgggttagcata tccgccccca cttactgata ctcctgacac tacagcaaat 300
gctgaaggag atttaccaac aaccatggga ggacctcttc ctccacatct ggctctcaaa 360
gcagaaaata attctgaggt agggccctct ggctatggtg ttccctggcc cacctggac 420
cgaggagcca acttgaagga ttactactca agaaaaggaag aacaagaagt gcaagcgact 480
ctagaatcag aagaagtggta tttaaatgct gggcttcatg gaaactggac ctggaaaaat 540
gctaaagctc gtctaaacca atatttcag aaagaaaaga tccaaggaga atataagtac 600
acccaagtgg gtcctgatca caacaggagc ttattgcag aaatgaccat ttatatcaag 660
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tcctgtgcct tgcacttgt cagacaactg taccatctt gagtgggtga agcttactcc 780
ggacttaccaa agaagaagga aggagagaca gtggagcctt acaaagtaaa cctctctcaa 840
gatttagagc atcagctgca aaacatcatt caagagctaa atctttagat ttggcccccg 900
cctgaagatc cttctgtgcc agttgcactc aacattggca aattggctca gttcgaacca 960
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3810

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<211> 894
<212> PRT
<213> Homo sapien

<400> 3

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Asn	Met	Val	Ser	His	Thr	Glu	Arg	Ala	Leu	Lys	Ala	Val	Ser	Asp	Trp
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Ile	Asp	Glu	Gln	Glu	Lys	Gly	Ser	Ser	Glu	Gln	Ala	Glu	Ser	Asp	Asn
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Met	Asp	Val	Pro	Pro	Glu	Asp	Asp	Ser	Lys	Glu	Gly	Ala	Gly	Glu	Gln
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Lys	Thr	Glu	His	Met	Thr	Arg	Thr	Leu	Arg	Gly	Val	Met	Arg	Val	Gly
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Leu	Val	Ala	Lys	Cys	Leu	Leu	Leu	Lys	Gly	Asp	Leu	Asp	Leu	Glu	Leu
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Val	Leu	Leu	Cys	Lys	Glu	Lys	Pro	Thr	Thr	Ala	Leu	Leu	Asp	Lys	Val
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Ala	Asp	Asn	Leu	Ala	Ile	Gln	Leu	Ala	Ala	Val	Thr	Glu	Asp	Lys	Tyr
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Glu	Ile	Leu	Gln	Ser	Val	Asp	Asp	Ala	Ala	Ile	Val	Ile	Lys	Asn	Thr
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Lys	Glu	Pro	Pro	Leu	Ser	Leu	Thr	Ile	His	Leu	Thr	Ser	Pro	Val	Val
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Arg	Glu	Glu	Met	Glu	Lys	Val	Leu	Ala	Gly	Glu	Thr	Leu	Ser	Val	Asn
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Asp	Pro	Pro	Asp	Val	Leu	Asp	Arg	Gln	Lys	Cys	Leu	Ala	Ala	Leu	Ala
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Ser	Leu	Arg	His	Ala	Lys	Trp	Phe	Gln	Ala	Arg	Ala	Asn	Gly	Leu	Lys
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Ser	Cys	Val	Ile	Val	Ile	Arg	Val	Leu	Arg	Asp	Leu	Cys	Thr	Arg	Val
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Lys	Ser	Ile	Gly	Thr	Ala	Asn	Arg	Pro	Met	Gly	Ala	Gly	Glu	Ala	Leu
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305	310	315
Ala Leu Arg Leu Ala Ala Phe Gly Gln Leu His Lys Val Leu Gly Met		
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Asp Pro Leu Pro Ser Lys Met Pro Lys Lys Pro Lys Asn Glu Asn Pro		
340	345	350
Val Asp Tyr Thr Val Gln Ile Pro Pro Ser Thr Thr Tyr Ala Ile Thr		
355	360	365
Pro Met Lys Arg Pro Met Glu Glu Asp Gly Glu Glu Lys Ser Pro Ser		
370	375	380
Lys Lys Lys Lys Ile Gln Lys Lys Glu Glu Lys Ala Glu Pro Pro		
385	390	395
Gln Ala Met Asn Ala Leu Met Arg Leu Asn Gln Leu Lys Pro Gly Leu		
405	410	415
Gln Tyr Lys Leu Val Ser Gln Thr Gly Pro Val His Ala Pro Ile Phe		
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Thr Met Ser Val Glu Val Asp Gly Asn Ser Phe Glu Ala Ser Gly Pro		
435	440	445
Ser Lys Lys Thr Ala Lys Leu His Val Ala Val Lys Val Leu Gln Asp		
450	455	460
Met Gly Leu Pro Thr Gly Ala Glu Gly Arg Asp Ser Ser Lys Gly Glu		
465	470	475
Asp Ser Ala Glu Glu Thr Glu Ala Lys Pro Ala Val Val Ala Pro Ala		
485	490	495
Pro Val Val Glu Ala Val Ser Thr Pro Ser Ala Ala Phe Pro Ser Asp		
500	505	510
Ala Thr Ala Glu Gln Gly Pro Ile Leu Thr Lys His Gly Lys Asn Pro		
515	520	525
Val Met Glu Leu Asn Glu Lys Arg Arg Gly Leu Lys Tyr Glu Leu Ile		
530	535	540
Ser Glu Thr Gly Gly Ser His Asp Lys Arg Phe Val Met Glu Val Glu		
545	550	555
Val Asp Gly Gln Lys Phe Gln Gly Ala Gly Ser Asn Lys Lys Val Ala		
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Lys Ala Tyr Ala Ala Leu Ala Ala Leu Glu Lys Leu Phe Pro Asp Thr		
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Pro Leu Ala Leu Asp Ala Asn Lys Lys Lys Arg Ala Pro Val Pro Val		
595	600	605
Arg Gly Gly Pro Lys Phe Ala Ala Lys Pro His Asn Pro Gly Phe Gly		
610	615	620

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 Gly Arg Gly Arg Gly Gly Ser Ile Arg Gly Arg Gly Arg Gly Arg Gly
 645 650 655
 Phe Gly Gly Ala Asn His Gly Gly Tyr Met Asn Ala Gly Ala Gly Tyr
 660 665 670
 Gly Ser Tyr Gly Tyr Gly Gly Asn Ser Ala Thr Ala Gly Tyr Ser Gln
 675 680 685
 Phe Tyr Ser Asn Gly Gly His Ser Gly Asn Ala Ser Gly Gly Gly
 690 695 700
 Gly Gly Gly Gly Ser Ser Gly Tyr Gly Ser Tyr Tyr Gln Gly Asp
 705 710 715 720
 Asn Tyr Asn Ser Pro Val Pro Pro Lys His Ala Gly Lys Lys Gln Pro
 725 730 735
 His Gly Gly Gln Gln Lys Pro Ser Tyr Gly Ser Gly Tyr Gln Ser His
 740 745 750
 Gln Gly Gln Gln Ser Tyr Asn Gln Ser Pro Tyr Ser Asn Tyr Gly
 755 760 765
 Pro Pro Gln Gly Lys Gln Lys Gly Tyr Asn His Gly Gln Gly Ser Tyr
 770 775 780
 Ser Tyr Ser Asn Ser Tyr Asn Ser Pro Gly Gly Gly Gly Ser Asp
 785 790 795 800
 Tyr Asn Tyr Glu Ser Lys Phe Asn Tyr Ser Gly Ser Gly Gly Arg Ser
 805 810 815
 Gly Gly Asn Ser Tyr Gly Ser Gly Gly Ala Ser Tyr Asn Pro Gly Ser
 820 825 830
 His Gly Gly Tyr Gly Gly Ser Gly Gly Ser Ser Tyr Gln Gly
 835 840 845
 Lys Gln Gly Gly Tyr Ser Gln Ser Asn Tyr Asn Ser Pro Gly Ser Gly
 850 855 860
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 <212> DNA
 <213> Homo sapien

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26

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<211> 702
<212> PRT
<213> Homo sapien

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35 40 45
Ile Asp Glu Gln Glu Lys Gly Ser Ser Glu Gln Ala Glu Ser Asp Asn
50 55 60
Met Asp Val Pro Pro Glu Asp Asp Ser Lys Glu Gly Ala Gly Glu Gln
65 70 75 80
Lys Thr Glu His Met Thr Arg Thr Leu Arg Gly Val Met Arg Val Gly
85 90 95
Leu Val Ala Lys Cys Leu Leu Leu Lys Gly Asp Leu Asp Leu Glu Leu
100 105 110
Val Leu Leu Cys Lys Glu Lys Pro Thr Thr Ala Leu Leu Asp Lys Val
115 120 125
Ala Asp Asn Leu Ala Ile Gln Leu Ala Ala Val Thr Glu Asp Lys Tyr
130 135 140
Glu Ile Leu Gln Ser Val Asp Asp Ala Ala Ile Val Ile Lys Asn Thr
145 150 155 160
Lys Glu Pro Pro Leu Ser Leu Thr Ile His Leu Thr Ser Pro Val Val
165 170 175
Arg Glu Glu Met Glu Lys Val Leu Ala Gly Glu Thr Leu Ser Val Asn
180 185 190
Asp Pro Pro Asp Val Leu Asp Arg Gln Lys Cys Leu Ala Ala Leu Ala
195 200 205
Ser Leu Arg His Ala Lys Trp Phe Gln Ala Arg Ala Asn Gly Leu Lys
210 215 220
Ser Cys Val Ile Val Ile Arg Val Leu Arg Asp Leu Cys Thr Arg Val
225 230 235 240
Pro Thr Trp Gly Pro Leu Arg Gly Trp Pro Leu Glu Leu Leu Cys Glu
245 250 255
Lys Ser Ile Gly Thr Ala Asn Arg Pro Met Gly Ala Gly Glu Ala Leu
260 265 270
Arg Arg Val Leu Glu Cys Leu Ala Ser Gly Ile Val Met Pro Asp Gly

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Ala Leu Arg Leu Ala Ala Phe Gly Gln Leu His Lys Val Leu Gly Met		
325	330	335
Asp Pro Leu Pro Ser Lys Met Pro Lys Lys Pro Lys Asn Glu Asn Pro		
340	345	350
Val Asp Tyr Thr Val Gln Ile Pro Pro Ser Thr Thr Tyr Ala Ile Thr		
355	360	365
Pro Met Lys Arg Pro Met Glu Glu Asp Gly Glu Glu Lys Ser Pro Ser		
370	375	380
Lys Lys Lys Lys Ile Gln Lys Lys Glu Glu Lys Ala Glu Pro Pro		
385	390	395
Gln Ala Met Asn Ala Leu Met Arg Leu Asn Gln Leu Lys Pro Gly Leu		
405	410	415
Gln Tyr Lys Leu Val Ser Gln Thr Gly Pro Val His Ala Pro Ile Phe		
420	425	430
Thr Met Ser Val Glu Val Asp Gly Asn Ser Phe Glu Ala Ser Gly Pro		
435	440	445
Ser Lys Lys Thr Ala Lys Leu His Val Ala Val Lys Val Leu Gln Asp		
450	455	460
Met Gly Leu Pro Thr Gly Ala Glu Gly Arg Asp Ser Ser Lys Gly Glu		
465	470	475
Asp Ser Ala Glu Glu Thr Glu Ala Lys Pro Ala Val Val Ala Pro Ala		
485	490	495
Pro Val Val Glu Ala Val Ser Thr Pro Ser Ala Ala Phe Pro Ser Asp		
500	505	510
Ala Thr Ala Glu Gln Gly Pro Ile Leu Thr Lys His Gly Lys Asn Pro		
515	520	525
Val Met Glu Leu Asn Glu Lys Arg Arg Gly Leu Lys Tyr Glu Leu Ile		
530	535	540
Ser Glu Thr Gly Gly Ser His Asp Lys Arg Phe Val Met Glu Val Glu		
545	550	555
Val Asp Gly Gln Lys Phe Gln Gly Ala Gly Ser Asn Lys Lys Val Ala		
565	570	575
Lys Ala Tyr Ala Ala Leu Ala Ala Leu Glu Lys Leu Phe Pro Asp Thr		
580	585	590
Pro Leu Ala Leu Asp Ala Asn Lys Lys Lys Arg Ala Pro Val Pro Val		
595	600	605
Arg Gly Gly Pro Lys Phe Ala Ala Lys Pro His Asn Pro Gly Phe Gly		
610	615	620

Met Gly Gly Pro Met His Asn Glu Val Pro Pro Pro Pro Asn Leu Arg
 625 630 635 640
 Gly Arg Gly Arg Gly Gly Ser Ile Arg Gly Arg Gly Arg Gly
 645 650 655
 Phe Gly Gly Ala Asn His Gly Gly Tyr Met Asn Ala Gly Ala Gly Tyr
 660 665 670
 Gly Ser Tyr Gly Tyr Gly Gly Asn Ser Ala Thr Ala Gly Tyr Ser Asp
 675 680 685
 Phe Phe Thr Asp Cys Tyr Gly Tyr His Asp Phe Gly Ser Ser
 690 695 700

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 <211> 2107
 <212> DNA
 <213> Homo sapien

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 gatgctattt ggcattttaga cagacagcaa cgggaagata tcacacagag tgccgcac 960
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 <212> PRT
 <213> Homo sapien

<400> 7
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 Gly Gly Pro Gly Gly Phe Arg Pro Phe Val Pro His Ile Pro Phe
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 35 40 45
 Asp Glu Thr Ser Phe Ser Glu Ala Leu Leu Lys Arg Asn Gln Asp Leu
 50 55 60
 Ala Pro Asn Ser Ala Glu Gln Ala Ser Ile Leu Ser Leu Val Thr Lys
 65 70 75 80
 Ile Asn Asn Val Ile Asp Asn Leu Ile Val Ala Pro Gly Thr Phe Glu
 85 90 95
 Val Gln Ile Glu Glu Val Arg Gln Val Gly Ser Tyr Lys Lys Gly Thr
 100 105 110
 Met Thr Thr Gly His Asn Val Ala Asp Leu Val Val Ile Leu Lys Ile
 115 120 125
 Leu Pro Thr Leu Glu Ala Val Ala Ala Leu Gly Asn Lys Val Val Glu
 130 135 140
 Ser Leu Arg Ala Gln Asp Pro Ser Glu Val Leu Thr Met Leu Thr Asn
 145 150 155 160
 Glu Thr Gly Phe Glu Ile Ser Ser Ser Asp Ala Thr Val Lys Ile Leu
 165 170 175
 Ile Thr Thr Val Pro Pro Asn Leu Arg Lys Leu Asp Pro Glu Leu His
 180 185 190
 Leu Asp Ile Lys Val Leu Gln Ser Ala Leu Ala Ala Ile Arg His Ala

195	200	205
Arg Trp Phe Glu Asn Ala Ser Gln Ser Thr Val Lys Val Leu Ile		
210	215	220
Arg Leu Leu Lys Asp Leu Arg Ile Arg Phe Pro Gly Phe Glu Pro Leu		
225	230	235
Thr Pro Trp Ile Leu Asp Leu Leu Gly His Tyr Ala Val Met Asn Asn		
245	250	255
Pro Thr Arg Gln Pro Leu Ala Leu Asn Val Ala Tyr Arg Arg Cys Leu		
260	265	270
Gln Ile Leu Ala Ala Gly Leu Phe Leu Pro Gly Ser Val Gly Ile Thr		
275	280	285
Asp Pro Cys Glu Ser Gly Asn Phe Arg Val His Thr Val Met Thr Leu		
290	295	300
Glu Gln Gln Asp Met Val Cys Tyr Thr Ala Gln Thr Leu Val Arg Ile		
305	310	315
Leu Ser His Gly Gly Phe Arg Lys Ile Leu Gly Gln Glu Gly Asp Ala		
325	330	335
Ser Tyr Leu Ala Ser Glu Ile Ser Thr Trp Asp Gly Val Ile Val Thr		
340	345	350
Pro Ser Glu Lys Ala Tyr Glu Lys Pro Pro Glu Lys Lys Glu Gly Glu		
355	360	365
Glu Glu Glu Asn Thr Glu Arg Thr Thr Ser Arg Arg Gly Arg Arg		
370	375	380
Lys His Gly Asn Ser Gly Val Thr Phe Pro Ser Leu Leu Phe Leu Pro		
385	390	395
Lys Gly Lys Thr Gly Ala		
405		

<210> 8
<211> 1221
<212> DNA
<213> Homo sapien

<400> 8
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aaagtcgtgg aaagcctaag agcacaggat ccttctgaag ttttaaccat gctgaccaac 480

gaaacaggct ttgaaatcag ttcttctgat gctacagtga agattctcat tacaacagt 540
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aaggaaaga ctggaggccta a 1221